ATTACHMENT I

Exchange Format for Velocity Surveys

1.   Definition of terms.

        (1)   A record consists of 80 bytes, including the carriage-return and line-feed (HEX 'ODOA').

        (2)   A file is a group of header records and data records physically separated by an inter-record gap (a blank record) and terminating with a control Z (HEX '1A').

2.   Specification of digital reporting.

        (1)   Diskette must be suitable for any IBM PC/XT/AT computer or compatible.

        (2)   3.3" or 5.25" diameter diskette standard.

        (3)   Diskette may be formatted for either 360 KByte or 1.2 MByte.

        (4)   Coded ASCII mode standard.

        (5)   A file cannot span multiple diskettes.

The label should identify the name, address, and telephone number of the person to contact should problems occur while loading the diskette. The contents of the diskette should also be identified. The diskette(s) should be packaged in containers specifically designed for floppy diskettes.

3.   Subdivision of contents.

        (1)   A velocity survey will contain header record(s), data record(s), and terminate with an end-of-file marker.

        (2)   As many header and data records as necessary may be used within a file. Header records must precede the first data record in the file.

        (3)   The diskette may contain numerous surveys. The last record of the diskette must be the end-of-file marker.

4.   Form of header.

A header record will be identified by an H as the first character of the record.   The first header record is a mandatory, formatted record that consists of:

a.   Header Record ID - The letter H to identify the record as a header record (Format A1) in column 1.

b.   API Number - The 12 digit API Number assigned by the MMS District to the well (Format 3A4) in columns 3-14.

c.   Date Survey Conducted - The year, month, and day the survey was conducted (Format 3I2) in columns 16-21.

For example: H 177671234500 900701

In addition to the mandatory, formatted first header record, it is recommended that other relevant information pertaining to the conditions under which the survey was conducted be included in the header. Other data contained in the header must begin with the H in column 1, but their arrangement is flexible in free format for columns 2-80. Examples of other header records are:

a.   Type of Survey - The method used to conduct the velocity survey- e.g., Borehole seismic analysis, seismic acquisition tool, vertical seismic profile, etc.

b.   Contractor - The name of the company that conducted the survey.

c.   Total Depth of Well - The total measured depth of the well in feet. In addition to the above, it is recommended that other relevant information pertaining to the conditions under which the survey was conducted be included in the header.

5.   Form of data.

Each data record is to contain information recorded at a given measurement point. A data record for each measurement point must be provided. Data records must be ordered beginning from surface to the bottom of the well bore.

The content of the data record block is as follows:

Item	Description	Format Columns Comments
1.	Depth	I5 1-5 The vertical distance, in feet, from sea level to the measurement point. Please include a zero in column 1 when the depth is less than 10,000 feet.
2.	Travel time	I5 6-10 The one-way vertical travel time in milli-seconds, corrected to sea level.

3. Unused Space   11-80 For future use.

Exchange Format for Directional Surveys

1. **Definition of terms.**

   (1)   A record consists of 80 bytes, including the carriage-return and line-feed (HEX 'ODOA').

   (2)   A file is a group of header records and data records physically separated by an inter-record gap (a blank record) and terminating with a control Z (HEX '1A').

2. **Specification of digital reporting.**

   (1)   Diskette must be suitable for any IBM PC/XT/AT computer or compatible.

   (2)   3.5" or 5.25" diameter diskette standard.

   (3)   Diskette may be formatted for either 360 KByte or 1.2 MByte.

   (4)   Coded ASCII mode standard.

   (5)   A file cannot span multiple diskettes.

   The label should identify the name, address and telephone number of the person to contact should problems occur while loading the diskette. The contents of the diskette should also be identified. The diskette(s) should be packaged in containers specifically designed for floppy diskettes.

3. **Subdivision of contents.**

   (1)   A directional survey will contain header record(s), data record(s), and terminate with an end-of-file marker.

   (2)   As many header and data records as necessary may be used within a file. Header records must precede the first data record in the file.

   (3)   A diskette may contain numerous surveys. The last record of the diskette must be the end-of-file marker.

4. **Form of header.**

   A header record will be identified by an H as the first character of the record.   The first header record is a mandatory, formatted record that consists of:

   a.   Header Record ID - The letter H to identify the record as a header record (Format A1) in column 1.

   b.   API Number - The 12 digit API Number assigned by the MMS District to the well (Format 3A4) in columns 3-14.

c.   Date Survey Conducted - The year, month, and day the survey was conducted (Format 3I2) in columns 16-21.

For example: H 177671234500 900701

In addition to the mandatory, formatted first header record, it is recommended that other relevant information pertaining to the conditions under which the survey was conducted be included in the header. Other data contained in the header must begin with the H in column 1, but their arrangement is flexible in free format for columns 2-80. Examples of other header records are:

a.   Type of Instrument Used to Take the Measurements - For example: magnetic single shot, magnetic multi-shot, gyroscopic, etc.

b.   Contractor - The name of the company that conducted the survey.

c.   Survey Interval - The depths, in feet, of the beginning and ending measurement points.

5.   Form of data.

Each data record is to contain information recorded at a given measurement point. A data record for each measurement point must be provided. Data records must be ordered beginning from surface to the bottom of the well bore.

The content of the data record block is as follows:

Item	Description	Format	Columns	Comments
1.	Measured Depth	I5	1-5	The distance in feet from the RKB to the measurement point. Please include a zero in column 1 when the depth is less than 10,000 feet.
2.	Inclination Angle			The angle, in degrees, minutes, and seconds, the well bore deviates from vertical at the measurement point.
	Degrees	I2	6-7	
	Minutes	I2	8-9	
	Seconds	I2	10-11	
3.	Azimuth Degrees	F6.2	12-17	The azimuth, in degrees, of the well bore at the measurement point. The azimuth should range from 0-360€ - north. (90€ is east; 270° is west.)
4.	Unused space		18-80	For future use.